

In the Claims:

What is claimed is:

1. Cancelled.
2. Cancelled.
3. (Currently amended) The compound

(1*R*)-(3-Benzenesulfonylcyclohepta-2,4-dienyloxy)-trimethylsilane;

(1*R*, 2*R*, 3*R*)-3-Benzenesulfonyl-2-methyl-5-phenylsulfanylcyclohept-4-enol;

(1*R*,2*R*)-(3-Benzenesulfonyl-2-methyl-5-phenylsulfanylcyclohept-4-enyloxy)-trimethylsilane;

(1*R*,2*S*)-3-Benzenesulfonyl-2-methyl-5-phenylsulfanylcyclohept-4-enyloxy)-*tert*-butyldimethylsilane;

(1*R*, 2*S*)-2-Methyl-5-phenylsulfanylcyclohepta-3, 5-dienol; ;

(1*R*,2*R*)-*tert*-Butyldimethyl-(2-methyl-5-phenylsulfanylcyclohepta-3,5-dienyloxy)-silane;

(1*S*, 2*S*, 7*S*)-2,7-Dimethyl-4-phenylsulfanylcyclohepta-3,5-dienol;

(1*S*, 2*S*, 7*S*)-4-Benzenesulfonyl-2,7-dimethylcyclohepta-3,5-dienol;

(1*S*,2*S*,7*S*)-(4-Benzenesulfonyl-2,7-dimethylcyclohepta-3,5-dienyloxy)-*tert*-butyldimethylsilane;

(1*S*,2*R*,7*S*)-2-Dimethylaminomethyl-7-methyl-4phenylsulfanylcyclohepta-3,5-dienol;

(~~1*R*, 2*R*, 3*R*, 4*S*, 7*R*~~) ~~6 Benzenesulfonyl 2,4 dimethyl 8 oxabicyclo[5.1.0]oct 5 en 3 ol~~;

(~~1*S*, 2*R*, 3*R*, 4*S*, 7*S*~~) ~~6 Benzenesulfonyl 2,4 dimethyl 8 oxabicyclo[5.1.0]oct 5 en 3 ol~~;

(~~1*R*, 2*S*, 3*R*, 4*S*, 7*R*~~) (~~6 Benzenesulfonyl 2,4 dimethyl 8 oxabicyclo[5.1.0]oct 5 en 3 yloxy~~) *tert*-butyldimethylsilane;

(~~1*S*, 2*S*, 3*R*, 4*S*, 7*S*~~) (~~6 Benzenesulfonyl 2,4 dimethyl 8 oxabicyclo[5.1.0]oct 5 en 3 yloxy~~) *tert*-butyldimethylsilane;

(1*S*, 2*S*, 3*R*, 4*R*, 5*S*)-7-Benzenesulfonyl-3,5-dimethylcyclohept-6-ene-1,2,4-triol;

(1*S*,2*S*,5*S*,6*R*,7*S*)-3-Benzenesulfonyl-6-(*tert*-butyldimethylsilanyloxy)-5,7-dimethylcyclohept-3-ene-1,2-diol;

(1*S*, 2*S*, 3*R*)-Acetic acid 3-benzenesulfonyl-2-methyl-5-oxocycloheptylester;

(1*E*,3*Z*,5*R*,6*S*)-2-(*tert*-Butyldimethylsilanyloxy)-5-methyl-6-triisopropylsilanyloxycyclohepta-

1,3-diene;

(1*R*,2*R*,3*S*,5*S*,8*E*)-9-(*tert*-Butyldimethylsilanyloxy)-2-methyl-3-triisopropylsilanyloxy-6,7-dioxabicyclo[3.2.2]-non-8-ene;

1*R*,2*R*,3*R*,4*S*,6*S*)-7-(*tert*-Butyldimethylsilanyloxy)-2,3-dihydroxy-4-methyl-5-triisopropylsilanyloxycycloheptanone;

(1*R*,2*R*,3*R*,4*S*,6*S*)-7-(*tert*-Butyldimethylsilanyloxy)-2-hydroxy-3-methoxy-4-methyl-5-triisopropylsilanyloxycycloheptanone;

(2*S*,4*S*,5*R*,6*R*)-2-(*tert*-Butyldimethylsilanyloxy)-6-methoxy-5-methyl-7-oxo-4-triisopropylsilanyloxyheptanoic acid methyl ester;

(1*R*,5*S*,6*R*,7*S*)-3-Benzenesulfonyl-6-(*tert*-butyldimethylsilanyloxy)-5,7-dimethylcyclohept-3-enol;

(1*S*,5*S*,6*R*,7*S*)-3-Benzenesulfonyl-6-(*tert*-butyldimethylsilanyloxy)-5,7-dimethylcyclohept-2-enol;

(1*S*,5*S*,6*R*,7*S*)-3-Benzenesulfonyl-6-(*tert*-butyl-dimethylsilanyloxy)-5,7-dimethylcyclohept-3-enol;

(1*S*,4*S*,5*R*,6*R*,7*S*)-2-Benzenesulfonyl-5,7-bis-(*tert*-butyldimethylsilanyloxy)-4,6-dimethylcyclohept-2-enol;

(3*S*,4*R*,5*R*,6*S*,7*S*)-1-Benzenesulfonyl-4,6-bis-(*tert*-butyldimethylsilanyloxy)-7-methoxy-3,5-dimethylcycloheptene;

(2*S*,3*S*,4*R*,5*S*,6*R*)-3,5-Bis-(*tert*-butyldimethylsilanyloxy)-2-methoxy-4,6-dimethyl-7-oxoheptanoic acid methyl ester;

(1*S*,4*S*)-3-Benzenesulfonyl-4-methylcyclohept-2-enol;

(3*S*,7*S*)-1-Benzenesulfonyl-3-methoxy-7-methylcycloheptene; or

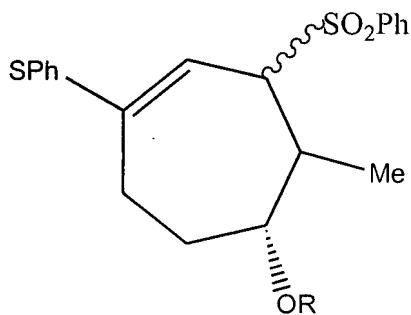
(*S*)-4-Methylcyclohept-2-enone.

4. (Currently amended) A compound of claim 12, wherein the compound is produced by oxidation of dienylsulfides through addition of an oxidizing agent such as *mCPBA*.

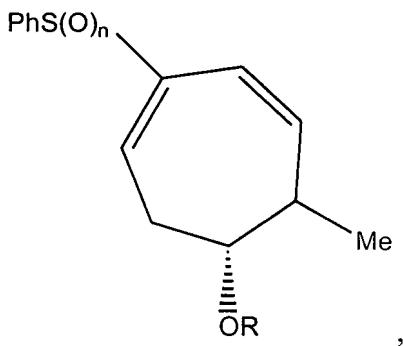
5. (Currently amended) A compound of claim 12, wherein the compound is made by a process in which reaction of allyl sulfones with TMS triflate and an amine, ~~such as an organic amine including triethylamine~~ in a solvent ~~such as methylene chloride~~ at reflux effects regiospecific elimination to yield dienylsulfides; the dienylsulfides are oxidized through addition of an oxidizing agent, ~~preferably a peroxide oxidizing agent including mCPBA~~; and wherein the entire process optionally can be performed in a single ~~done one~~ pot ~~or in~~ steps.

6. (Currently amended) A compound of claim 12, wherein the compound is made by:

(a) reacting allyl sulfones of the formula



with TMS triflate and an amine, ~~such as an organic amine including triethylamine~~ in a solvent, ~~such as methylene chloride~~, at reflux to yield a dienylsulfide of the formula

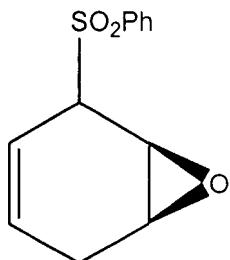


and oxidizing the dienylsulfide with an oxidizing agent, ~~preferably a peroxide oxidizing agent such as mCPBA,~~

where R is C₁-C₅ alkyl, phenyl, substituted phenyl, vinyl, alkynyl, trimethylsilyl or t-

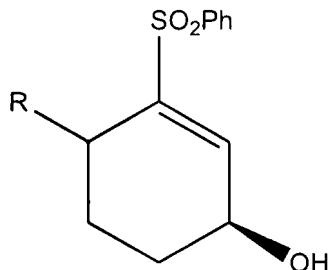
butyldimethylsilyl and wherein the reaction can be done one pot or in steps.

7. (Currently amended) A compound of claim 12, wherein the compound is made by alkylating an epoxyvinylsulfone of the formula

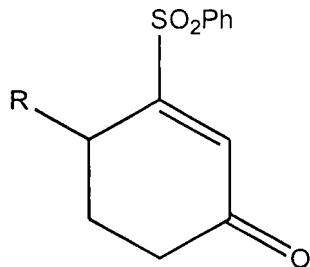


in a reaction medium comprising (R)₂CuLi, and a solvent, ~~such as an ether solvent, such as THF, Et₂O or a mixture of THF and Et₂O~~, where R is a C₁ to C₅ alkyl and wherein the reaction optionally can be done one performed in a single pot or in steps.

8. (Previously presented) A compound of claim 12, wherein the compound is made by oxidizing an allylic alcohol of the formula



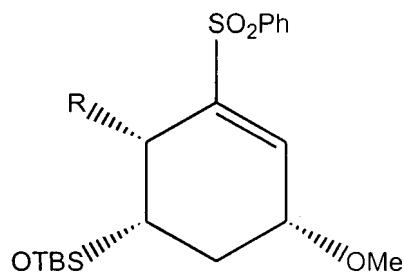
where R is a C₁ to C₅ alkyl, phenyl, substituted phenyl, vinyl, alkynyl, trimethylsilyl or t-butyldimethylsilyl to yield a β-sulfonyl enone of the formula



wherein the β -sulfonyl enone is subjected to Michael addition of heterocuprates and subsequent β -elimination of sulfinate, and

wherein the reactions optionally are ~~done one performed in a single pot or in steps.~~

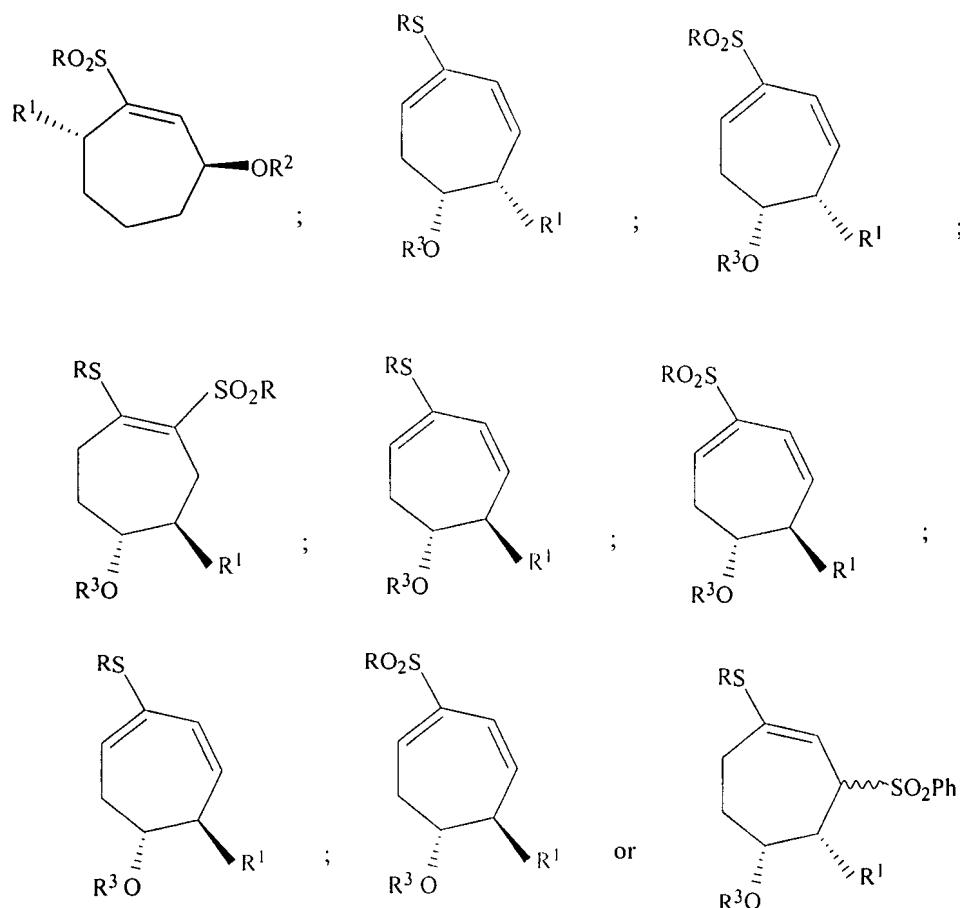
9. (Previously presented) A compound of claim 12, wherein the compound is made by reacting a sulfone of the formula



where R is a C₁ to C₅ alkyl, phenyl, substituted phenyl, vinyl, alkynyl, trimethylsilyl or t-butyldimethylsilyl with one or more alkyl halides.

10-11. Cancelled.

12. (Currently amended) A compound selected from compounds of the formulae:



wherein:

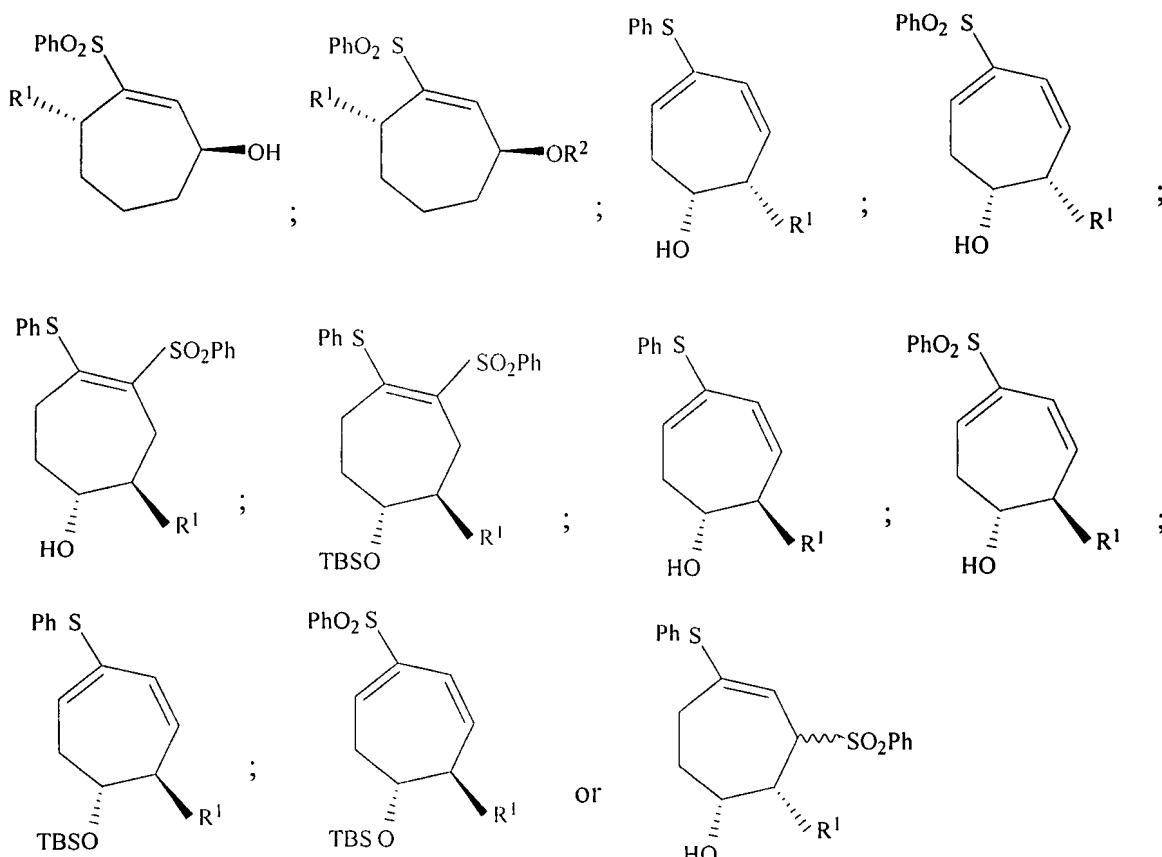
R^1 is a C_1-C_5 alkyl group;

R^2 and R^3 are independently selected from H, a C_1-C_4 alkyl group or a blocking group, preferably a silyl-containing blocking group such as a trimethylsilyl group or a t-butyl dimethylsilyl group; and

R is a phenyl or substituted phenyl group wherein the substituted phenyl group is substituted in one instance at the ortho, meta or para position of the phenyl group with a C_1-C_4 alkyl group, a halogen (F, Cl, Br, I) a nitro group, an amine, hydroxyl, a C_1-C_4 alkyl ester (wherein the alkyl group on the ester is a C_1-C_4 alkyl group), a C_1-C_4 alkylether (wherein the alkyl group on the ester is a C_1-C_4 alkyl group) or acyl group,

and stereoisomers thereof.

13. (New) A compound of claim 12, wherein the compound is selected from compounds of the formulae:



and stereoisomers thereof.

The following claims are new:

14. (New) A compound according to claim 5 wherein said amine is an organic amine.

15. (New) The compound according to claim 5 wherein said amine is triethylamine and

said solvent is methylene chloride.

16. (New) The compound according to claim 5 wherein said oxidizing agent is a peroxide oxidizing agent.

17. (New) The compound according to claim 16 wherein said oxidizing agent is meta-chloroperbenzoic acid (*m*CPBA).

18. (New) The compound according to claim 6 wherein said amine is triethylamine and said solvent is methylene chloride.

19. (New) The compound according to claim 6 wherein said oxidizing agent is meta-chloroperbenzoic acid (*m*CPBA).

20. (New) The compound according to claim 18 wherein said oxidizing agent is meta-chloroperbenzoic acid (*m*CPBA).

21. (New) The compound according to claim 7 wherein said solvent is an ether solvent selected from the group consisting of tetrahydrofuran (THF), diethylether (ET₂O) and mixtures thereof.

22. (New) The compound according to claim 12 wherein said blocking group is a silyl-containing blocking group.

23. (New) The compound according to claim 22 wherein said blocking group is a trimethylsilyl group.

24. (New) The compound according to claim 22 wherein said blocking group is a

tertiarybutyl dimethyl silyl group.

Amendment/Response
S.N. 10/662,781
P27-053.amendment July 2007

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